Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 2: *Applied Research*		R-1 ITEM NOMENCLATURE PE 0602250D8Z: *Systems 2020 Applied Research*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	7.898	-	7.898	1.903	-	-	-	Continuing	Continuing
P209: *Systems 2020 Applied Research*	-	-	7.898	-	7.898	1.903	-	-	-	Continuing	Continuing

Note

Systems 2020 will set the technical foundation for the Department's system needs for the next decade. This initiative funds Office of the Secretary of Defense and Service research and development efforts in key technologies and tools for design and development of complex systems. The program seeks to develop enabling technologies that will support the rise of a new class of adaptable systems, and will spawn a new generation of engineering tools and markets that could revolutionize systems engineering practice.

Systems 2020 research initiatives will investigate advanced engineering technologies and provide experimental platforms to assess the feasibility of proposed solutions. These areas include: (1) Multi-dimensional, multi-feature design and engineering tradespace analysis approaches computed rapidly, accurately and within an integrated environment; (2) Techniques to generate multiple alternative designs with data structures enabling modeling of lifecycle implications such as producibility and sustainability; and (3) Novel decision-making techniques that interface engineering and operational data and inputs while guarding against premature or stovepiped design choices. Together these efforts address opportunities to improve system adaptability and will develop techniques to balance design choices against costs for future adaptation precipitated by unexpected threats, changing missions, and disruptive technologies, while operating with far greater speed and agility.

A. Mission Description and Budget Item Justification

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	4.381	1.951	-	1.951
Current President's Budget	-	-	7.898	-	7.898
Total Adjustments	-	-4.381	5.947	-	5.947
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.381			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustment	-	-	5.947	-	5.947

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602250D8Z: *Systems 2020 Applied Research*	PROJECT P209: *Systems 2020 Applied Research*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
P209: *Systems 2020 Applied Research*	-	-	7.898	-	7.898	1.903	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Systems 2020 research initiatives will investigate advanced engineering technologies and provide experimental platforms to assess the feasibility of proposed solutions. These areas include: (1) Multi-dimensional, multi-feature design and engineering tradespace analysis approaches computed rapidly, accurately and within an integrated environment; (2) Techniques to generate multiple alternative designs with data structures enabling modeling of lifecycle implications such as producibility and sustainability; and (3) Novel decision-making techniques that interface engineering and operational data and inputs while guarding against premature or stovepiped design choices. Together these efforts address opportunities to improve system adaptability and will develop techniques to balance design choices against costs for future adaptation precipitated by unexpected threats, changing missions, and disruptive technologies, while operating with far greater speed and agility.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Systems 2020 Applied Research	-	-	7.898
FY 2013 Plans: -Conduct Systems 2020 research projects, coordinate with the Services' science and technology leadership and the Service's research, development and engineering centers. Integrate Services' pilot project results and data. Coordinate research agenda with outside agencies such as the National Institute of Science and Technology, and the National Science Foundation. -Perform applied research to enable implementation of candidate Systems 2020 tools, technologies and methods in an integrated laboratory demonstration and evaluation of initial capabilities to accelerate delivery of complex adaptive systems. -Perform applied research to enable implementation of candidate Systems 2020 systems analysis and design engineering tools in an integrated laboratory demonstration that performs within a wide range of architectures and design drivers in the context of dynamic mission and threat conditions. -Perform applied research to enable implementation of Systems 2020 tools that mature a concept-engineering and integrated modeling environment that enables rapid assessment of new material, increases productivity of engineering, design and production processes, and readily incorporates a wide range of mission data for generation of design alternatives.			
Accomplishments/Planned Programs Subtotals	-	-	7.898

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secretary Of Defense		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 2: *Applied Research*	R-1 ITEM NOMENCLATURE PE 0602250D8Z: *Systems 2020 Applied Research*	PROJECT P209: *Systems 2020 Applied Research*

E. Performance Metrics

TBD